

5 I claim:

1. A transformable truck bed cover for mounting over an open bed of a truck,
comprising:

means for detachably attaching said truck bed cover to said open bed;

10 means for adjusting the height of said truck bed cover;

means for adjusting the length of said truck bed cover; and

a cover assembly detachably attached to said means for detachably attaching said truck
bed cover to said open bed and said means for adjusting the height and the length of said truck
bed cover;

15 wherein said truck bed cover is utilized to secure any items placed in said open bed by
virtue of being variable in height between a fully collapsed position and a fully elevated position
and, simultaneously, being variable in length between a fully retracted position, a continuum of
partially extended positions, and a fully extended position.

20 2. The transformable truck bed cover according to claim 1, wherein said means for
detachably attaching said truck bed cover to said open bed comprise two anchor rails and two
cover attachment rails.

25 3. The transformable truck bed cover according to claim 2, wherein said means for
adjusting the height and the length of said truck bed cover comprise a plurality of support
assemblies pivotally and slidably engaged with said anchor rails.

5 4. The transformable truck bed cover according to claim 3, further comprising a first cross member fixedly attached at first ends of said two anchor rails and a second cross member detachably attached at second ends of said two anchor rails.

10 5. The transformable truck bed cover according to claim 3, wherein each of said plurality of support assemblies comprises;

two sled assemblies;

two side members, each of said two side members being pivotally engaged at a first end with one of said two sled assemblies;

15 two support cylinders, each of said two support cylinders being pivotally engaged at a first end with one of said two sled assemblies and at a second end with one of said two side members; and

a third cross member, said third cross member being slidably engaged at each end with second ends of said two side members.

20 6. The transformable truck bed cover according to claim 5, wherein each of said two sled assemblies of one of said plurality of support assemblies comprises a locking mechanism for releasably fixing the length of said truck bed cover at said fully retracted position, any one of said continuum of partially extended positions, or at said fully extended position.

25 7. The transformable truck bed cover according to claim 5, wherein each of said two sled assemblies comprises;

5 a base defined by a slot, said slot being slidably engaged with one of said two anchor rails;

a first connector fixedly attached to said base, said first connector being pivotally engaged with said first end of one of said two side members; and

10 a second connector fixedly attached to said first connector, said second connector being pivotally engaged with said first end of one of said two support cylinders.

8. The transformable truck bed cover according to claim 5, wherein said third cross member is fabricated from a material possessing an I-shaped cross-section.

15 9. The transformable truck bed cover according to claim 8, further comprising two interface assemblies for facilitating said slidable engagement between said third cross member and said two side members.

20 10. The transformable truck bed cover according to claim 9, wherein each of said two interface assemblies comprises;

first and second side plates pivotally engaged with said second end of one of said two side members;

two first rollers, each of said two first rollers being rotatably attached between said first side plate and said second side plate; and

25 four second rollers, two of said four second rollers being rotatably attached to said first side plate and two of said four second rollers being rotatably attached to said second side plate;

5 wherein said two first rollers rotatably engage a bottom, external surface of said I-shaped cross-section of said third cross member and said four second rollers rotatably engage bottom, internal surfaces of said I-shaped cross-section of said third cross member

10 11. The transformable truck bed cover according to claim 4, wherein said cover assembly comprises a flexible top cover, two flexible side covers, a first flexible end cover, and a second flexible end cover.

15 12. The transformable truck bed cover according to claim 11, wherein said flexible top cover may be detachably attached to said cover attachment rails, said plurality of support assemblies, said first cross member, and said second cross member when said truck bed cover is in said fully collapsed position, and said flexible top cover may be detachably attached to said plurality of support assemblies, said two flexible side covers, and said first and second flexible end covers when said truck bed cover is in said fully elevated position.

20 13. The transformable truck bed cover according to claim 11, wherein said two flexible side covers may be detachably attached to said plurality of support assemblies when said truck bed cover is in any position.

25 14. The transformable truck bed cover according to claim 11, wherein said first flexible end cover may be detachably attached to one of said plurality of support assemblies and said first cross member when said truck bed cover is in any position.

5 15. The transformable truck bed cover according to claim 11, wherein said second
flexible end cover may be detachably attached to one of said plurality of support assemblies and
said second cross member when said truck bed cover is in a fully extended position, and said
second end cover may be detachably attached to one of said plurality of support assemblies when
said truck bed cover is in any one of said continuum of partially extended positions or said fully
10 retracted position.

 16. The transformable truck bed cover according to claim 1, wherein height adjustment
between said fully collapsed position and said fully elevated position is performed manually.

15 17. The transformable truck bed cover according to claim 1, wherein height adjustment
between said fully collapsed position and said fully elevated position is accomplished
automatically.

 18. The transformable truck bed cover according to claim 1, wherein length adjustment
20 between any two positions is performed manually.

 19. The transformable truck bed cover according to claim 1, wherein length adjustment
between any two positions is accomplished automatically.

25 20. A transformable truck bed cover for mounting over an open bed of a truck,
comprising;

5 two anchor rails;

 two cover attachment rails;

 a plurality of support assemblies pivotally engaged with said anchor rails, each of said
plurality of support assemblies comprises;

 two sled assemblies, each of said two sled assemblies comprises;
10 a base;

 a first connector fixedly attached to said base, said first connector being
pivottally engaged with said first end of one of said two side members; and

 a second connector fixedly attached to said first connector, said second
connector being pivotally engaged with said first end of one of said two support cylinders;
15 two side members, each of said two side members being pivotally engaged at a
first end with one of said two sled assemblies;

 two support cylinders, each of said two support cylinders being pivotally engaged
at a first end with one of said two sled assemblies and at a second end with one of said two side
members; and

20 a cross member, said third cross member being slidably engaged at each end with
second ends of said two side members; and

 a flexible cover assembly, said flexible cover assembly comprises;

 two side covers, wherein said two side covers may be detachably attached to said
plurality of support assemblies when said truck bed cover is in any position;

25 two end covers, wherein each of said two end covers may be detachably attached
to one of said plurality of support assemblies when said truck bed cover is in any position; and

5 a top cover wherein said top cover may be detachably attached to said cover attachment rails and said plurality of support assemblies when said truck bed cover is in a fully collapsed position, and said top cover may be detachably attached to said plurality of support assemblies, said two side covers, and said two end covers when said truck bed cover is in a fully elevated position;

10 wherein said truck bed cover is utilized to secure any items placed in said open bed by virtue of being variable in height, either manually or automatically adjusted, between a fully collapsed position and a fully elevated position.

21. A transformable truck bed cover for mounting over a truck bed, comprising:

15 at least two anchoring rails attached alongside said truck bed on opposing sides thereof;
 at least two cross members connected between said anchoring rails;
 a flexible cover;

 a plurality of cover supports pivotally secured to said anchoring rails and pivotable upward to extend said cover into a truck-cap-shaped covering, said cover supports being slidably
20 attached to the anchoring rails such that the flexible cover may be extended or retracted along the truck bed's length.